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ABSTRACT

The guidelines in this paper were developed to assist Massachusetts Private Industry Councils, social agencies, unions, businesses, and education providers in designing educational programs appropriate to the workplace. The focus is on literacy education. The paper is organized in four sections. The first section briefly examines the background of adult literacy needs and problems. The second section, which makes up the bulk of the paper, provides suggestions for program development. Areas covered include publicity, building peer and supervisor support, class locations, educational approaches, student/teacher ratios, competency-based instruction, assessment tools, and curriculum development. The third section discusses performance goals and how they are affected by the level of learner, intensity of learning experience, availability of learning supports, and motivation of learner. Finally, the fourth section suggests contacting the Office of Training and Employment Policy (OTEP), Office of Economic Affairs, for information on curriculum development, competency-based education, and computer-assisted instruction. (KC)

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GUIDELINES FOR DEVELOPING AN EDUCATIONAL PROGRAM FOR WORKER LITERACY

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Workplace Educational Program
Governor's Literacy Initiative

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These guidelines were developed to assist Massachusetts Private Industry Councils, SDAs, Unions, Businesses and Education providers in designing educational programs appropriate to the Workplace. For more information on this Initiative or about these guidelines, please contact Sondra Stein, Deputy Director, at (617) 727-1097

GUIDELINES FOR DEVELOPING AN EDUCATIONAL PROGRAM FOR WORKER LITERACY

I. BACKGROUND

When people talk about adult literacy they are taking about an adult's ability to read and write. Someone who can't read or write at all is considered illiterate. Someone who can't read or write well enough to function competently in society is considered functionally illiterate. As our society has become more technologically advanced, higher level reading and writing skills are required for functional literacy. Right now, for example, a person with fifth or sixth grade level reading and writing skills would only be marginally literate - able to get by but not able to perform all the tasks associated with full citizenship, including reading the daily newspaper. Taken together, these three groups account for nearly 75 million American adults who are in need of assistance in reading and writing in order to function proficiently in society.

One reason that the extent of illiteracy among working adults has remained hidden for so long is that most adults find it extremely difficult to admit that they lack the reading and writing skills they need to function competently and independently. Embarrassed and ashamed by what seems to be proof of personal inadequacy and incapacity to learn, most illiterate, native English-speaking adults spend a good part of their time on the job disguising the fact that they can't read or write as well as coworkers and bosses assume they can.

What conditions are necessary to enable workers to feel safe enough, in the first place, to admit that they can't read, and, then, to believe that they are capable of doing something about it? Participants at the May 14, 1986, Technical Assistance Conference at OTEP raised these questions, asking for assistance in developing an educational model that would address workers' needs. These Guidelines are a starting point for finding answers that will work for you.

II. PROGRAM DEVELOPMENT

Publicize your program in terms of growth not deficiency.

Adults who have spent years trying to hide insufficient skills in reading, writing, or computation tend to have histories of failure in formal education. No matter what the actual conditions responsible for their limited literacy, no matter what other skills they have learned over time, they see their failure to develop basic skills as proof of their own incapacity to learn. Any appeal to education which is based on remediating that deficiency, simply plays into that sense of inadequacy, and is doomed to failure.

What motivates adults to learn is a specific need in their lives. Mothers and fathers will come to adult learning centers seeking help when their children get to the age when they need help. Community activists seek out education when their lack of writing skills becomes a barrier to their efforts to better

conditions in their community. This pragmatic, goal-oriented approach to learning means that workers will come to educational programs that are specifically tied to skills they will need for job security and job advancement. Over one-third of the hourly workforce at Polaroid enrolled in a company-sponsored remedial education program that was billed as a Technology Readiness Program. Employees were informed that technological change in the next five to ten years would mean that the nature of all workers' jobs would change. Workers who wanted to be ready for the new responsibilities their jobs would entail needed to participate in this program. And participate they did.

Build in peer or supervisor support.

Peer and supervisor support for participation in worker literacy programs are critical for successful recruitment and retention. When supervisors take an active interest in worker literacy programs, encouraging participation and maintaining an active interest in employee progress throughout the program, their behavior underlines the critical link between improving skills and job advancement.

Peer support, in the form of union involvement or of encouragement from coworkers, has a slightly different effect. If an organization whose purpose is to work for your betterment is sponsoring an educational program, if someone you know and trust is encouraging you to participate in that program, then you are more likely to take a chance that the experience will be positive, rather than repeat earlier failures in education. For this reason, programs that make use of union staff for recruitment and on-going counseling usually have a high rate of worker involvement and of participant retention. One program plans to build on these beneficial effects of peer support by incorporating a peer tutoring program to supplement classroom instruction.

Hold classes in a safe, known, adult place.

Since the physical environment is a critical component of the psychological environment, it is important to hold classes in a safe, adult place. Instead of using public school sites that remind adults of past failures, use union halls, multiservice centers, or conference or lunchrooms at the workplace. Similarly, instead of setting up classrooms with rows of individual desks all facing the teacher up front, use a large conference table for group instruction, or a number of smaller tables that each accommodate several learners. This is a more learner-centered environment, conducive to group interaction, to learning from each other as well as from the teacher. Be sure the furniture is large enough to accommodate an adult comfortably.

Choose an educational approach that is responsive to adult learning styles and is based on respect for learners as adults and workers.

Adults who have been away from formal education for a long time and who are anxious about their ability to learn, need a highly structured learning environment. While they are generally highly motivated to learn, they are also easily frustrated. Having clear expectations about their attendance and performance, and regular and frequent interaction with instructors and instructional aides keeps them from giving up when they come face to face with their own fear of failure.

This means that adults tend to do better -- at least initially -- in a class or small group setting that meets at a set time and place than they do in a self-paced, completely self-structured learning environment. This kind of self-structured environment is often termed a skills resource center approach to adult learning. Because this is the least expensive arrangement for addressing a variety of needs, it is widely available. Unfortunately, it is not the most effective setting for new learners, because it does not provide enough structure.

A Massachusetts dislocated worker center associated with a community college found this out when they tried to make the college's learning resource center available to dislocated workers. Although a number of workers were interested in using the center, the lack of direction and support meant that only the most self-confident and the most highly skilled were able to persist until they met their educational objectives.

Classroom or modified classroom settings are far more effective for beginning learners who have been away from school for a long time. In the first place, the teacher sets the pace, introducing new concepts and leading discussions to make sure students understand before moving on to the next point. The teacher also provides a formal mechanism for feedback -- in the form of questions asked and homework turned in. As a result, the student is not left on his or her own, afraid to admit that she/he doesn't know, but unable to move on without some intervention.

Just as important, the classroom setting is a group setting. This provides a range of benefits for the adult student. First, it helps overcome the embarrassment of not knowing because a number of his peers are in the same position. Second, it helps to overcome the frustration of not knowing. In order to reach all the students, the teacher is likely to have to repeat a concept several times, several different ways: the adult learner thus has the benefit of more time to help in understanding a new idea without having to always ask for it herself. Third, help doesn't always come from the teacher. Because the perspectives of his fellow students may be closer to his than the teacher's, listening to and participating in discussions of an idea may increase the student's understanding more than a one-on-one interaction with a teacher. The support that other students provide -- in learning, in overcoming barriers, in building confidence, in keeping on trying -- is the final, and perhaps, the most important benefit of a group learning setting for adults.

Many discussions about adult learning ignore these benefits of group learning because their focus is on the importance of individualizing instruction for adults. Tailoring the learning experience -- especially the pace of learning -- to the need of the individual is critical for adult learners. However, individualizing learning does not mean you have to adopt a learning resource center approach. Group learning can also be individualized. In many adult learning centers, students with similar learning needs are grouped into a class, but learning is individualized. Classroom discussions are supplemented with individual learning folders that tailor an individual's work assignments to his or her specific learning needs, enabling a student to practice, review or move on at his/her own pace. This provides adult students with the benefits of both learning approaches.

Student/Teacher Ratio

Whatever the structure of learning, the critical question is how available is the instructor to the learner, or more commonly stated, what is the teacher/student ratio? For adults with extremely low literacy skills, the ratio of students to teacher or teacher's aide should be approximately 5:1. For adults functioning at a higher level (4th - 7th grade), a higher ratio of 15:1 would be ideal. This ratio is also appropriate for ESL instruction. Since there is so little money available for adult basic education statewide, however, student/teacher ratios in a classroom setting may range as high as 20:1 for ABE and ESL classes and 30:1 for GED prep classes. If you are faced with this kind of situation, try to build in supports like peer tutors or computer-assisted instruction to free up the teacher's time so an individual student can get the help and attention he or she needs -- despite the high student/teacher ratio.

Competency-Based Instruction

Increasingly, adult education and training programs across the county are modifying traditional course-based offerings (Reading 1, Reading 2, etc.) by introducing elements of competency-based instruction and assessment. Competency-Based Adult Education (CBAE) is defined as "a performance-based process leading to demonstrated mastery of basic and life skills necessary for the individual to function proficiently in society." Its primary defining characteristic is that the learning process begins not with a syllabus but with a set of very clear, learning objectives, and with a set of clearly defined and clearly demonstrable measures for determining whether the objectives have been met. Competency-based instructional systems are particularly appropriate for training and placement programs since the instructional objectives can be clearly related to the employment goals of the learner.

What attracts adult educators and trainers to competency-based learning is that it seems to make a good match with the learning style and learning needs of adults.

- Adult learners' past history in education leads to enormous anxiety when faced with the trappings of traditional classroom education -- from rows of desks to multiple choice tests. CBAE allows for and encourages a wide range of instructional settings, and, most important, replaces traditional pen and paper tests with performance measures that are oriented to real-life functional competence.

- Adults are motivated to learn by a specific need in their lives: their orientation to learning tends to be pragmatic and goal-oriented. The CBAE process translates the learner's overall goal -- qualifying for a computer technician training program, for example -- into specific learning objectives that, once mastered, will enable the learner to meet her goal.

- Adult learning is problem-centered and oriented to immediate applications. CBAE's emphasis on clear performance measures for every learning objective matches this orientation.

- Adult learners need to replace a history of failure in education with a new history of success in learning. CBAE breaks down learning into manageable chunks: each time a learner demonstrates mastery of one of his learning objectives he demonstrates that he can learn, thus adding to his self-confidence and building that new history of success.

Use assessment tools and curricula based on adult subject-matter.

Thinking about educational assessments as part of a more comprehensive learner-centered process avoids the worst practices in educational assessment. What makes every adult and every conscientious assessment counselor hate educational assessment is the hours and hours spent on standardized tests that exhaust and depress clients and provide results that are not useful to client or counselor. When counselors start with a clear conception of their clients' needs, they can choose testing instruments that test only those specific skills or competencies that are relevant to the client's goals.

Academic-Based Assessment Instruments

Too often, those who administer educational assessments to adults rely on academic-based skills testing instruments such as the TABE (Test of Adult Basic Education), the WRAT (Wide Range Achievement Test), and the ABLE (Adult Basic Learning Examination). While these testing instruments were developed for use with adults, they are modeled on those developed for in-school students and are intended to produce comparable results. They measure information (prior knowledge of a general body of knowledge) as well as skills developed, and the standard of measurement they use is grade level (usually grade 4 and 5 through grade 12). Because these tests attempt to be comprehensive and cumulative, they include several subtests in reading, writing and computation and can take from three to five hours to complete.

These characteristics of academic-based assessment instruments mean that they are not the most appropriate for use with adults. Their length tends to overwhelm test-anxious adults. In addition, since they try to measure achievement up to 12th grade level, they leave adults with skills below the 6th or 7th grade level feelings inadequate and bad about their skills because they can answer so few of the questions. Finally, since they were developed to produce results comparable to tests for in-school students, such instruments often do not measure the kind of problem-solving skills that are most relevant for judging an adult's ability to perform in a training or job placement. For these reasons, academic-based assessment instruments are not appropriate for adults if:

- they have been out of school for some time;
- they believe their skills are low or lower than they should be;
- they are anxious about test-taking;
- they are not considering the GED as a next step; or

- they are considering training or a new area of employment as a next step.

For such adults, life skills assessment instruments are much more appropriate.

Life Skills-Based Assessment Instruments

Life skills assessment instruments use a different content and a different format from academic assessment instruments to test reading, writing and computation skills. Instead of testing these basic skills in the context of a body of knowledge that school-age students are expected to learn and retain, life skills instruments test those basic skills in the context of everyday life situations. They use materials from everyday adult life experiences at home, at work and as consumers, and from the wider spheres of social and community life.

The content of a good life skills reading assessment like the "REAL," for example, is drawn from such every day life materials as traffic signs, recipes, road maps, television schedules, job ads and news articles. These are written materials that most adults will actually need to be able to read and understand in order to function competently in their public and private lives. They tend to range in vocabulary and complexity of construction from about the third to the eighth or ninth grade level of reading comprehension, rather than ranging between the seventh and thirteenth grade level as academic assessments do. As a result, they measure the level of reading ability adults need to function in every day life (6th to 8th grade level).

The format of good life skills assessments also differs from that of academic-based assessments. Life skills assessments ask questions that reveal the ability to use each type of written material, rather than the ability to recall a particular body of knowledge. As a result, there are no rules about not looking back to a previous page (you can always refresh your memory or reconsider your answer), and there is generally no time limit: how long it takes to complete the assessment is one variable that reveals a person's skill level.

Because life skills assessment like the REAL use materials drawn from real-life adult situations, because they measure an adult's ability to work with these materials, and because they try to set up testing conditions that simulate real-life problem-solving conditions, these assessments are said to measure functional competencies. They tend to be used in situations in which an assessor is interested in finding out how well a person can function or is likely to be able to function in a particular set of circumstances. For this reason, they are especially appropriate for assessing readiness for vocational training or for employment in a specific occupational area.

Unfortunately, there are still fewer good life skills assessment instruments than academic assessment instruments for adults. Some developers of adult education materials like the APL (Adult Performance Level) project of the University of Texas have begun to develop new life skills assessment instruments. These can be ordered directly from such adult education publishers as Cambridge Books, Contemporary Books, Scott Foresman/Lifelong

Learning Division, and the Steck-Vaughn Publishing Company. On the whole, however, many adult education centers rely on teacher-made assessment instruments which are designed to provide only that information centers need to place adults in appropriate classes or programs.

Entry Standard Assessments to Assess Training Readiness

The 32 Entry Standard Assessments (ESAs) developed as a Vocational Education Special Project by the Office of Education of San Mateo County, California, are good examples of how assessments can be tailor-made to test only those skills and aptitudes that an individual will need to perform well in a specific occupation. The ESA for an Apprenticeship Machinist Program, for example, tests a much greater range of competence in computational skills and a much narrower range of competence in grammatical skills than the ESA for a Word Processing training program.

Because the academic skills tested are so clearly related to a particular kind of work, they provoke much less anxiety for the test-shy adult and are much more useful for both the adult being assessed and the assessor. Taking the assessment gives the candidate for education and training a good idea of the kind of skills she is going to need, not only to complete training but to perform in that job. As a result, it helps to give the individual a clearer idea of what she needs to learn to succeed in a particular kind of work, and, therefore, a clearer idea of whether that kind of work is a good choice for her.

Finally, an ESA testing experience is likely to leave an individual feeling good about what he knows and where he's headed rather than bad about what he doesn't know. With such a clear idea of his learning goals, an adult can progress through a competency-based instructional system, learning in a relatively short time what he needs to learn to improve his chances for training and employment.

Developing Appropriate Curricula for Workplace Literacy

Materials appropriate for a workplace literacy program will vary from site to site depending on the explicit learning objectives established and the needs of the learners. A basic skills program linked to employee upgrade within a specific company will want to draw upon materials that give participants a broader understanding of the industry and of the place of their company within the industry, as well as a clearer understanding of how each function within the company contributes to overall productivity. In cases of mature industries where the educational program is designed to enhance participants' re-employability, curriculum developers may want to draw upon materials from other areas of shared interests, including community life, cultural or labor history, and preparation for citizenship, as well as labor market information.

Whatever the specifics of your program, here are some general guidelines to follow when choosing materials:

- if materials are high interest, adults will struggle to read at a higher level.

- any materials can be rewritten to the desired level of readability. There are tools to help you do this.

- reading materials for a class can be developed from the writing of participants. This technique is often an extremely successful means to ensure high-interest, appropriate-level reading materials.

III. PERFORMANCE GOALS

How much time do adults need to progress from one level of competence to another? A generally accepted standard assumes one grade level of improvement for every fifty hours of instruction. This standard may be modified by a number of factors:

- Level of learner: progress is slower for adults with low level literacy skills. For adults who are just learning to read English (0-2nd grade level), the progress will be slow as they build a foundation of necessary information and skills. Once this foundation of basic principles and techniques is established, the rate of learning quickens.

- Intensity of learning experience: foreign language learning has taught us that the total immersion method of learning is the most effective for adults. Obviously, 20-25 hours of instruction per week is not practical for working adults. In such cases, 4-6 hours per week of structured learning is assumed to be sufficient to allow the repetition necessary for retention. Where possible, try to structure classes so that participants have no more than three days between classes. Monday - Thursday (for 2 day classes) is preferable to Monday - Wednesday, or Tuesday - Thursday.

- Availability of learning supports: the more opportunity an adult has to practice what she/he has learned between classes, the better the retention. Try to develop a number of structures that will facilitate practice. These might include: designing work-related homework; providing a learning lab with computers; using volunteer tutors.

- Motivation of learner: how motivated a learner is depends on so many factors. Key among these are: the learning goal the individual has set for himself; the individual's sense of self-esteem and perception of herself as a learner; the appropriateness of the learning materials; the match between the method through which information is conveyed and the individual's learning style; and the stability of the individual learner's life at any point (crises at home or work clearly interfere with ability to learn).

Finally, keep in mind that trying to learn while trying to earn puts a strain on mental, physical and family resources. Try to schedule classes early in a shift (where possible) so that learners are fresh enough to concentrate. No matter how much you want to learn, it is much harder to learn after 8-10 hours of work.

IV. RESOURCES

The Resource Center at OTEP will be able to provide you with a wide range of bibliographies and other resources on curriculum development, competency-based instruction, and computer-assisted instruction.

For further information please contact Sondra G. Stein, Associate Planner.

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